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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,179

04/24/2007

Bernhard Gellrich

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EXAMINER

RIDDLE, CHRISTINA A

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,179	<b>Applicant(s)</b> GELLRICH ET AL.	
	<b>Examiner</b> Christina Riddle	<b>Art Unit</b> 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/19/2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 39-99 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 39-99 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status***

1. Acknowledgment is made of Applicant's election filed 10/19/2009. However, after further consideration, the previous restriction requirement filed 8/18/2009 is withdrawn by the Examiner. A new and corrected restriction requirement is provided below.

### ***Election/Restrictions***

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 39-74, 79, and 80, drawn to a holding device for an optical element in an objective having a mount that is connected to the objective with a reinforcing element between the mount and the optical element.

Group II, claims 75-78 and 82-85, drawn to an objective being an immersion lithography objective.

Group III, claims 86 and 92, drawn to a lithographic apparatus comprising an illumination system for providing a projection beam of radiation, a support structure for supporting patterning means, a substrate table for holding a substrate, and a projection system for projecting the patterned beam onto a target portion of the substrate, the projection system comprising an objective having an optical element and having a holding device for an optical element in an objective having a mount that is connected to the objective with a reinforcing element between the mount and the optical element.

Group IV, claims 87-91, drawn to a method for connecting an optical element and a reinforcing element in an objective, in which the optical element and the reinforcing element are connected to one another by wringing.

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Group V, claims 93-99, drawn to an immersion lithography objective, wherein provided between an optical element subjected to a first immersion medium and an optical element arranged inside the lithography objective are a feed line for a second immersion medium, and a removal line for the second immersion medium.

3. The inventions listed as Groups I, II, III, and IV and V do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Groups I, II, III, and IV and V lack unity of invention because the groups do not share the same or corresponding technical feature. Groups I, II, and III contain the common technical feature of a holding device for an optical element in an objective having a mount that is connected to the objective with a reinforcing element between the mount and the optical element. Group IV contains the technical feature of a method for connecting an optical element and a reinforcing element in an objective, in which the optical element and the reinforcing element are connected to one another by wringing. Group V contains the technical feature of an immersion lithography objective, wherein provided between an optical element subjected to a first immersion medium and an optical element arranged inside the lithography objective are a feed line for a second immersion medium, and a removal line for the second immersion medium. Therefore, the Groups I, II, III, and IV and V each have different technical features and therefore lack unity of invention *a priori*.

4. Further, Groups I, II, and III lack unity of invention because even though the inventions of these groups require the technical feature of a holding device for an optical

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element in an objective having a mount that is connected to the objective with a reinforcing element between the mount and the optical element, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of Schuster (US Patent No. 6,417,974).

**Regarding claim 39**, Schuster (US Patent No. 6,417,974, included in Applicant's IDS dated 5/19/2006) discloses a holding device for an optical element (last optical element 1, Figs. 1-6) in an objective (objection 10, Fig. 6) having a mount that is connected (Fig. 6, the mounts support the optical elements including optical element 2 and last optical element 1), on the one hand, to the objective (Fig. 6, the mounts are directly connecting the objective 10), and on the other hand, at least indirectly to the optical element (Fig. 6, last optical element 1 is connected to the mount through optical element 2), there being arranged between the mount and the optical element a reinforcing element (Figs. 1-6 and col. 3, lines 22-39, optical element 2 reinforces last optical element 1 since the lower surface of optical element 2 is shown to be supporting the upper surface of last optical element 1. Further, in Figs. 1-6, it is clear that optical element 2 supports last optical element 1 via other intervening materials such as thin layer 3 in Fig. 3. Col. 3, lines 22-39 disclose that there are two optical elements: optical element 1 and 2, that are connected to each other such that optical 2 reinforces optical 1) whose coefficient of thermal expansion corresponds substantially to the coefficient of thermal expansion of the optical element (col. 3, lines 44-49 and 64-67 and col. 4, lines 1-3, last optical element 1 and optical element 2 are made of materials with substantially corresponding thermal expansion).

**Regarding claim 73**, Schuster discloses an objective (objective 10, figs. 1-6) having an optical element (last optical element 1, Figs. 1-6) and having a holding device for the optical element having a mount that is connected (Fig. 6, the mounts support the optical elements including optical element 2 and last optical element 1), on the one hand, to the objective (Fig. 6, the mounts are directly connecting the objective 10), and on the other hand, at least indirectly to the optical element (Fig. 6, last optical element 1 is connected to the mount through optical element 2), there being arranged between the mount and the optical element a reinforcing element (Figs. 1-6 and col. 3, lines 22-39, optical element 2 reinforces last optical element 1 since the lower surface of optical element 2 is shown to be supporting the upper surface of last optical element 1. Further, in Figs. 1-6, it is clear that optical element 2 supports last optical element 1 via other intervening materials such as thin layer 3 in Fig. 3. Col. 3, lines 22-39 disclose that there are two optical elements: optical element 1 and 2, that are connected to each other such that optical 2 reinforces optical 1) whose coefficient of thermal expansion corresponds substantially to the coefficient of thermal expansion of the optical element (col. 3, lines 44-49 and 64-67 and col. 4, lines 1-3, last optical element 1 and optical element 2 are made of materials with substantially corresponding thermal expansion).

**Regarding claim 74**, Shuster discloses the objective is designed as a lithography objective (col. 3, lines 22-30, the objective is designed in a lithography projection exposure device).

Therefore, lack of unity is properly indicated between dependent claims since independent claims 39, 73, and 74 do not avoid the prior art.

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5. Lack of Unity of has been indicated for the dependent claims of Group II and the claims of Group I. The examiner wishes to note that this is proper in light of the indicated Lack of Unity of the independent claims. See MPEP 1850: "If, however, an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered. If there is no link remaining, an objection of lack of unity *a posteriori* (that is, arising only after assessment of the prior art) may be raised." Thus, since the independent claims fail to make a contribution over the prior art, Groups I, II, and III lack unity of invention *a posteriori*.

6. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Riddle whose telephone number is (571)270-7538. The examiner can normally be reached on Monday- Thursday 7:00-17:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter B. Kim/  
Primary Examiner, Art Unit 2882

/C. R./  
Examiner, Art Unit 2882